

REMARKS

By this Amendment, Applicants amend claims 1, 5, 7-9, 11-13, 15, 23, 25, 27, and 31. Applicants also add new claims 47 and 48. Upon entry of this Amendment, claims 1 and 4-48 will be pending, with claims 36-46 withdrawn from consideration.

In the Office Action, the Examiner objected to claims 12 and 28 as dependent upon rejected base claims. The Examiner also rejected claims 1, 5-10, 13, and 14 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,158,949 to Walth et al. (hereinafter "Walth") in view of U.S. Patent No. 5,503,234 to Liston (hereinafter "Liston"); rejected claims 4, 11, and 15-35 under 35 U.S.C. § 103(a) as unpatentable over Walth in view of Liston and further in view of EI Wakil, Processing and Design for Manufacturing (Prentice Hall 1989) (hereinafter "EI Wakil"). Applicants respectfully traverse the rejections under 35 U.S.C. § 103.

Regarding Claim Objections

The Examiner objected to claims 12 and 28 as dependent upon rejected base claims, but indicated that claims 12 and 28 would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims. Applicants have rewritten claim 12 in independent form. Accordingly, Applicants respectfully request withdrawal of the objection to claim 12. Applicants further request withdrawal of the objection to claim 28 because the base claim 15 that claim 28 depends on is allowable for the reasons stated below.

Regarding Claim Rejections Under 35 U.S.C. § 103

In order to establish a prima facie case of obviousness, three basic criteria must be met. First, the prior art reference (or references when combined) must teach or suggest all the claim elements. Second, there must be some suggestion or motivation,

either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify a reference or to combine reference teachings. Third, there must be a reasonable expectation of success. See M.P.E.P. § 2143.

Claim 1, as amended, recites a combination including, for example, "said second load bearing member having an end comprising a material having a first yield strength; an aperture formed in said end and having an aperture wall; at least one support member contained within said aperture adjacent to at least a portion of said aperture wall, said support member having an opening sized to receive a bearing; and said support member having a second yield strength greater than said first yield strength." Walth fails to teach at least the claim elements quoted above.

Walth discloses a boom assembly of a work machine including a coupling subassembly. "Coupling subassembly 24 further includes a boss 50 having an end 60, an end 62, and a pin passageway 52 extending therethrough." Walth, column 3, lines 16. "Coupling subassembly 24 also includes an auxiliary support member 46 having a hole 54 defined therein, and an auxiliary support member 48 having a hole 74 defined therein. . ." Walth, column 3, lines 6-13.. However, Walth does not mention any yield strength of members of the coupling assembly. Thus, Walth does not teach or suggest "said second load bearing member having an end comprising a material having a first yield strength; an aperture formed in said end and having an aperture wall; at least one support member contained within said aperture adjacent to at least a portion of said aperture wall, said support member having an opening sized to receive a bearing; and

said support member having a second yield strength greater than said first yield strength," as required by amended claim 1.¹

Liston fails to cure Walth's deficiencies. Liston teaches a bearing assembly with polycrystalline superlattice coating. Regarding the polycrystalline superlattice coating, Liston states that "[t]he most effective wear resistance is typically imparted where all bearing assembly surfaces, such as an outer race, an inner race and a roller element are coated with the coating set forth herein." Liston, column 8, lines 57-63, emphasis added. Thus, Liston, as well, fails to mention any yield strength of member of the bearing assembly. Liston's teaching of wear resistance does not constitute a teaching of "said second load bearing member having an end comprising a material having a first yield strength; an aperture formed in said end and having an aperture wall; at least one support member contained within said aperture adjacent to at least a portion of said aperture wall, said support member having an opening sized to receive a bearing; and said support member having a second yield strength greater than said first yield strength," as required by amended claim 1.

Therefore, neither Walth nor Liston, taken alone or in any reasonable combination, teaches or suggests all elements of Applicants' invention, as recited in amended claim 1. Applicants respectfully request withdrawal of the rejection of claim 1. Applicants also request withdrawal of the rejections of claims 4-11, 13, and 14 for at least the same reasons stated above.

¹ The Examiner recognized this by stating "Walth is silent on whether the second yield strength is greater than said first yield strength." (Office Action, at 2).

Claims 15 and 31, as amended, recite combinations including, for example, "said weldment being simulated for effects of heat on at least one of said pieces subject to said weldment before said weldment is constructed." Walth fails to teach or suggest "said weldment being simulated for effects of heat on at least one of said pieces subject to said weldment before said weldment is constructed," as required by amended claims 15 and 31.

Walth discloses a boom assembly of a work machine including a coupling subassembly. "Coupling subassembly 24 further includes a boss 50 having an end 60, an end 62, and a pin passageway 52 extending therethrough." Walth, column 3, lines 16. However, Walth does not teach or suggest simulating weldment for effects of heat.² Neither does Liston. Liston teaches a bearing assembly with polycrystalline superlattice coating, but does not mention simulating weldment for effects of heat.

EI Wakil fails to cure both Walth's and Liston's deficiencies. EI Wakil discussed metallurgy of fusion welding. "During fusion welding three zones can be identified, The second zone, which is referred to as the heat-affected zone, or HAZ, is that portion of the base metal that has not been melted." EI Wakil, at 71. "In fusion-welding processes, considerable thermal stresses develop during heating and subsequent cooling of the workpiece, especially with those processes that result in large heat-affected zones." EI Wakil, at 87. However, EI Wakil does not mention simulating the welding for effect of heat on workpieces in order to minimize the adverse effects of welding. Therefore, EI Wakil fails to teach or suggest "said weldment being simulated

² The Examiner recognized this by stating "Walth is silent on weldments being simulated for effects of heat on at least one of said pieces subject to said weldment." (Office Action, at 4).

for effects of heat on at least one of said pieces subject to said weldment before said weldment is constructed," as required by amended claims 15 and 31.

Therefore, none of Walth, Liston, and El Wakil, taken alone or in any reasonable combination, teaches or suggests all elements of Applicants' invention as recited in amended claims 15 and 31. Applicants respectfully request withdrawal of the rejection of claims 15 and 31. Applicants further request withdrawal of the rejection of their respective dependent claims 16-30 and 32-35 for at least for the above stated reasons corresponding to claims 15 and 31.

Regarding Newly Added Claims

Applicants have added new claims 47 and 48 to address other aspects of the present invention. Support for claims 47 and 48 may be found, for example, on pages 8 and 9 of the specification. For at least the same reasons stated as regard to claim 1, claims 47 and 48 are neither anticipated nor rendered unpatentable by the prior art of record.

Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge
any additional required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: September 10, 2004

By: Wenye Tan
Wenye Tan
Reg. No. 55,662